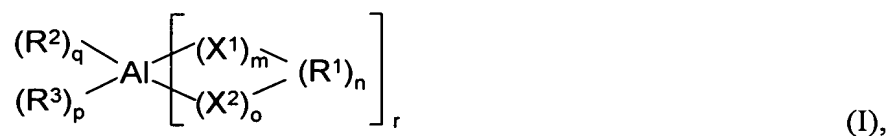


This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Original) Process for the preparation of co- or terpolymers from olefins, characterised in that compounds of the general formula (I)



in which

- $X^1$  denotes NR, PR, O or S, optionally complex-bonded to aluminium
- $X^2$  denotes NRR', PRR', OR, SR, complex-bonded to aluminium
- $R^1$  denotes linear or branched alkylene, cycloalkylidene, alkenylene, arylene, silylene, all of which may contain hetero atoms, such as N, P, O, S, F or  $X^1$  or  $X^2$ , optionally complex-bonded to aluminium
- $R^2, R^3$ , independently of one another, denote linear or branched alkyl, cycloalkyl, alkenyl, aryl, alkynyl, silyl, H, F, Cl, Br, I or  $X^2$ , each of which may itself be partially fluorinated or perfluorinated
- $R, R'$ , independently of one another, denote linear or branched alkyl, cycloalkyl, alkenyl, aryl, alkynyl, silyl or H, each of which may itself be partially fluorinated or perfluorinated
- $m$  denotes 0, 1
- $n$  denotes 1, 2, 3, 4, 5, 6, 7; if  $n > 1$ ,  $R^1$  may, independently of one another, adopt different meanings

o denotes 0, 1

p, q denote 0, 1, 2

r denotes  $3 - p - q$ ,

are used as components or cocatalysts (A) in coordination catalyst systems, where the latter in turn consist of (A), (B) a titanium- or vanadium-containing mixed catalyst and optionally (C) a support based on  $\text{MgCl}_2$  or  $\text{SiO}_2$  or  $\text{SiO}_2$  in combination with  $\text{MgCl}_2$ .

2. (Currently Amended) Process according to Claims 1, characterised in that the polymerisation reactions are carried out as mass or bulk polymerisations in which monomers are used as solvent, solution polymerisations in a suitable solvent, suspension polymerisations in a suitable inactive solvent or as gas-phase polymerisations.
3. (Currently Amended) Process according to claim 1 ~~Claims 1 and 2~~, characterised in that components (A), (B) and optionally (C) are, for assembly of the coordination catalyst systems, dissolved or suspended, before their use in the polymerisation reaction, in an inert hydrocarbon, such as propane, butane, pentane, hexane, octane, decane, cyclic hydrocarbon, such as cyclopentane, cyclohexane, methylcyclopentane, aromatic hydrocarbon, such as benzene, toluene or xylene, a halogenated hydrocarbon, such as ethylene chloride, chlorobenzene or dichloromethane, or mixtures thereof as solvent.
4. (Currently Amended) Process according to claim 1 ~~Claims 1 and 2~~, characterised in that the polymerisation reaction is carried out as solution polymerisation, where an aromatic hydrocarbon, such as benzene, toluene, xylene or ethylbenzene, or a cyclic hydrocarbon, such as cyclopentane or methylcyclohexane or an aliphatic hydrocarbon, such as pentane, hexane, heptane, or octane, or a halogenated hydrocarbons, such as chloroform or dichloromethane, or mixtures thereof or a monomer are employed as solvent.
5. (Currently Amended) Process according to claim 1 ~~one or more of Claims 1 to 4~~, characterised in that the co- or terpolymerisation is carried out at a

temperature in the range from -20 to 120°C at a pressure in the range from atmospheric pressure to 6 bar.

6. (Currently Amended) Process according to claim 1 ~~one or more of Claims 1 to 5~~, characterised in that the co- or terpolymerisation is carried out at a temperature in the range from 0 to 100°C.
7. (Currently Amended) Process according to claim 1 ~~one or more of Claims 1 to 6~~, characterised in that the olefins used are at least two olefinically unsaturated hydrocarbons selected from the group ethylene, C<sub>3</sub>- to C<sub>12</sub>-alk-1-enes, such as propene, 1-butene, isobutene, 1-pentene, 4-methyl-1-pentene, 1-hexene, 1-heptene, 1-octene, 1-nonene, 1-decene, 1-undecene, 1-dodecene, furthermore styrene,  $\alpha$ -methylstyrene, cycloolefins, such as cyclopentene, norbornene, dienes, such as 1,3-butadiene, 1,4-hexadiene, ethyridenenorbornene or norbornadiene.
8. (Currently Amended) Process according to claim 1 ~~one or more of Claims 1 to 6~~, characterised in that the olefins used are at least two olefinically unsaturated hydrocarbons selected from the group ethylene, propylene, 1-butene, 1-hexene, 1-octene, norbornene, butadiene and ethyridenenorbornene.
9. (Currently Amended) Process according to claim 1 ~~one or more of Claims 1 to 6~~, characterised in that the olefins used for the copolymerisation are ethene and propene or ethene and hexene or ethene and octene.
10. (Currently Amended) Process according to claim 1 ~~one or more of Claims 1 to 6~~, characterised in that the olefins used for the terpolymerisation are ethene, propene and ethyridenenorbornene.
11. (Currently Amended) Process according to claim 1 ~~one or more of Claims 1 to 6~~, characterised in that compounds selected from the group  
[3-(dimethylamino)propyl]dimethylaluminium,  
[3-(dimethylamino)propyl]diethylaluminium,  
[3-(dimethylamino)propyl]dibutylaluminium,  
[3-(diethylamino)propyl]dimethylaluminium,

[3-(diethylamino)propyl]diethylaluminium,  
[3-(diethylamino)propyl]dibutylaluminium,  
[4-(dimethylamino)butyl]dimethylaluminium  
[4-(dimethylamino)butyl]diethylaluminium  
[4-(dimethylamino)butyl]dibutylaluminium  
[4-(diethylamino)butyl]dimethylaluminium  
[4-(diethylamino)butyl]diethylaluminium  
[4-(diethylamino)butyl]dibutylaluminium  
[2-(dimethylamino)phen-1-yl]dimethylaluminium,  
[2-(dimethylamino)phen-1-yl]diethylaluminium,  
[2-(dimethylamino)phen-1-yl]dibutylaluminium,  
[2-(diethylamino)phen-1-yl]dimethylaluminium,  
[2-(diethylamino)phen-1-yl]diethylaluminium,  
[2-(diethylamino)phen-1-yl]dibutylaluminium,  
[2-(dimethylamino)benzyl]dimethylaluminium,  
[2-(dimethylamino)benzyl]diethylaluminium,  
[2-(dimethylamino)benzyl]dibutylaluminium,  
[2-(diethylamino)benzyl]dimethylaluminium,  
[2-(diethylamino)benzyl]diethylaluminium,  
[2-(diethylamino)benzyl]dibutylaluminium,  
[2-(dimethylaminomethyl)phen-1-yl]dimethylaluminium,  
[2-(dimethylaminomethyl)phen-1-yl]diethylaluminium,  
[2-(dimethylaminomethyl)phen-1-yl]dibutylaluminium,  
[2-(diethylaminomethyl)phen-1-yl]dimethylaluminium,  
[2-(diethylaminomethyl)phen-1-yl]diethylaluminium,  
[2-(diethylaminomethyl)phen-1-yl]dibutylaluminium,  
[8-(dimethylamino)naphth-1-yl]dimethylaluminium,  
[8-(dimethylamino)naphth-1-yl]diethylaluminium,  
[8-(dimethylamino)naphth-1-yl]dibutylaluminium,  
[3-(methoxy)propyl]dimethylaluminium,  
[3-(methoxy)propyl]diethylaluminium,  
[3-(methoxy)propyl]dibutylaluminium,  
[3-(ethoxy)propyl]dimethylaluminium,  
[3-(ethoxy)propyl]diethylaluminium,  
[3-(ethoxy)propyl]dibutylaluminium,  
[3-(butoxy)propyl]dimethylaluminium,

[3-(butoxy)propyl]diethylaluminium,  
 [3-(butoxy)propyl]dibutylaluminium,  
 [2-(methoxy)phen-1-yl]dimethylaluminium,  
 [2-(methoxy)phen-1-yl]diethylaluminium,  
 [2-(methoxy)phen-1-yl]dibutylaluminium,  
 [2-(methoxy)benzyl]dimethylaluminium,  
 [2-(methoxy)benzyl]diethylaluminium,  
 [2-(methoxy)benzyl]dibutylaluminium,  
 [2-(methoxymethyl)phen-1-yl]dimethylaluminium,  
 [2-(methoxymethyl)phen-1-yl]diethylaluminium,  
 [2-(methoxymethyl)phen-1-yl]dibutylaluminium,  
 [8-(methoxy)naphth-1-yl]dimethylaluminium,  
 [8-(methoxy)naphth-1-yl]diethylaluminium,  
 [8-(methoxy)naphth-1-yl]dibutylaluminium,  
 [8-(ethoxy)naphth-1-yl]dimethylaluminium,  
 [8-(ethoxy)naphth-1-yl]diethylaluminium and  
 [8-(ethoxy)naphth-1-yl]dibutylaluminium  
 are used as components or cocatalysts in coordination catalyst systems.

12. (Currently Amended) Process according to claim 1 ~~one or more of Claims 1 to 6~~, characterised in that compounds selected from the group  
 [2-(methoxy)benzyl]dibutylaluminium,  
 [3-(dimethylamino)propyl]dimethylaluminium,  
 [3-(dimethylamino)propyl]diethylaluminium and  
 [2-(diethylaminomethyl)phen-1-yl]diethylaluminium  
 are used as components in coordination catalyst systems for the co- and terpolymerisation of olefins.

13. (Currently Amended) Process according to claim 1 ~~one or more of Claims 1 to 6~~, characterised in that compounds selected from the group  
 [2-(methoxy)benzyl]dibutylaluminium,  
 [3-(dimethylamino)propyl]diethylaluminium and  
 [2-(diethylaminomethyl)phen-1-yl]diethylaluminium  
 are used as compounds in coordination catalyst systems for the copolymerisation of ethene with propene.

14. (Currently Amended) Process according to claim 1 ~~one or more of Claims 1 to 6~~, characterised in that  
[3-(dimethylamino)propyl]dimethylaluminium  
are used as components in coordination catalyst systems for the  
copolymerisation of ethene with hexene.
15. (Currently Amended) Process according to claim 1 ~~one or more of Claims 1 to 6~~, characterised in that  
[2-(diethylaminomethyl)phen-1-yl]diethylaluminium  
is used as component in coordination catalysts for the terpolymerisation of  
ethylene, propylene and ethyldenenorbornene.
16. (Currently Amended) Ethylene-propene copolymer having a molecular  
weight in the range from 50,000 to 1,500,000 g/mol, obtainable by a process  
according to claim 1 ~~Claims 1 to 14~~.
17. (Original) Ethylene-propene copolymer according to Claim 16, having a  
molar ethylene / propene ratio of 1 : 99 to 99 : 1.
18. (Currently Amended) Ethylene-propene copolymer having a molar  
ethylene / propene ratio of 50 : 50 and a molecular weight in the range from  
100,000 to 200,000 g/mol, obtainable by a process according to claim 1  
~~Claims 1 to 14~~.
19. (Currently Amended) Ethylene-propene-ethyldenenorbornene terpolymer  
having an ethylene / propene / ethyldenenorbornene ratio of  
 $x_{\text{ethylene}}: 0.5 - 0.9$ ,  $x_{\text{propylene}}: 0.05 - 0.3$ ,  $x_{\text{ethyldenenorbornene}}: 0.05 - 0.2$  mol, a  
molecular weight in the range from 50,000 to 1,000,000 g/mol, obtainable by a  
process according to claim 1 ~~Claims 1 to 14~~.
20. (Currently Amended) Ethylene-propene-ethyldenenorbornene terpolymer  
having an ethylene / propene / ethyldenenorbornene ratio of  
 $x_{\text{ethylene}}: 0.75$ ,  $x_{\text{propylene}}: 0.2$ ,  $x_{\text{ethyldenenorbornene}}: 0.05$  mol, a molecular weight of  
100,000 g/mol and a glass transition temperature of  $T_g = -53^\circ\text{C}$ , obtainable by  
a process according to claim 1 ~~Claims 1 to 14~~.